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Prevalence of Breakfast Consumption And Its Association with School Attendance and Academic Performance: A Gender-Based Study Among School Going Children Aged 11–15 Years

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ABSTRACT

Breakfast consumption plays a vital role in supporting cognitive function, school attendance, and academic performance among adolescents. This study examined the relationship between breakfast habits, attendance, and academic outcomes among 315 school-going children aged 11–15 years, with emphasis on gender-based differences. Data were collected using a structured questionnaire assessing breakfast frequency, quality, and reasons for skipping breakfast, while academic performance and attendance were obtained from report cards. Most students reported regular breakfast intake and improved energy levels during school hours. A higher proportion of boys perceived that skipping breakfast negatively affected their academic performance. Breakfast consumption patterns were examined in relation to academic performance and attendance. A strong positive correlation was observed between academic performance and attendance across both genders. Gender-stratified analysis revealed a stronger association between breakfast intake and attendance among girls, while perceived academic effects were more pronounced among boys. The findings emphasize the supportive role of regular breakfast consumption in educational outcomes. Gender-specific patterns suggest the need for targeted nutrition education and school-based breakfast promotion strategies to enhance academic performance and overall well-being among adolescents

Keywords: Breakfast; Adolescents; Academics; Attendance; Nutrition; Education; School

I. INTRODUCTION

Breakfast is widely acknowledged as a critical component of a balanced daily diet for school-going children and adolescents, contributing to optimal physical growth, cognitive functioning, and emotional well-being. Consuming breakfast provides essential energy and nutrients after an overnight fast, thereby supporting concentration, alertness, and active participation in classroom activities. Several studies have

demonstrated that regular breakfast intake is associated with improved attention span, classroom behavior, and academic engagement among children and adolescents [1, 2].

Existing evidence suggests that adolescents who consume breakfast more frequently tend to exhibit better academic performance compared to those who habitually skip this meal. Regular breakfast consumption has been linked to higher scholastic achievement, particularly in core academic subjects, whereas inconsistent or skipped breakfasts have been associated with poorer grades and reduced learning outcomes [3]. In addition to frequency, the quality and nutritional adequacy of breakfast have also been reported to play a role in supporting cognitive processes and educational attainment [4].

Despite its recognized benefits, breakfast skipping remains prevalent among adolescents worldwide. This behavior is often influenced by modifiable factors such as time constraints in the morning, irregular sleep patterns, reduced appetite, and personal food preferences. Studies have shown that skipping breakfast may lead to lower energy levels, diminished concentration, and decreased school engagement, which can adversely affect academic performance [5]. Furthermore, emerging evidence indicates that regular breakfast consumption may also contribute to better emotional regulation and reduced psychological distress, thereby indirectly supporting learning and school performance [6].

School attendance is another key determinant of academic success, as consistent attendance enhances continuity of learning, classroom interaction, and academic progression. A strong positive relationship between attendance and academic performance has been consistently documented, highlighting attendance as a critical mediator in achieving educational outcomes [7]. Given that breakfast habits may influence daily school readiness and punctuality, understanding the interplay between breakfast consumption, attendance, and academic performance is particularly important during adolescence.

In this context, the present study aims to assess the prevalence of breakfast consumption, explore the reasons for breakfast skipping, and examine the association between school attendance and academic performance among school-going children aged 11–15 years. Additionally, the study seeks to identify gender-based differences in breakfast habits and their potential implications for educational outcomes, thereby contributing region-specific evidence to support targeted nutrition education and school-based health promotion strategies.

II. METHODOLOGY

A cross-sectional study was conducted to assess breakfast consumption patterns and their association with school attendance and academic performance among school-going children aged 11–15 years. The total sample size of the study comprised 315 participants.

Data were collected using a pre-designed, structured questionnaire developed in accordance with the research objectives to obtain relevant and reliable information from the respondents. The questionnaire was administered through self-administered Google Forms. It consisted of two sections: Section A, which included demographic details of the participants, and Section B, which focused on breakfast consumption patterns and food choices. Information regarding annual school attendance and academic performance was obtained from the students' official report cards.

The sample was selected using a non-probability convenience sampling technique. Secunderabad was chosen as the study area, and a total of 315 school-going children within the age group of 11–15 years were included in the study. Data analysis was performed using Microsoft Excel, and the findings were presented in the form of tables and graphical representations.

III. STATISTICAL ANALYSIS

The study employed descriptive statistical methods using Microsoft Excel, generating frequencies, percentages, means, and standard deviations for all measured variables, including breakfast consumption, academic performance, and attendance. Pearson's correlation coefficient was used to examine the linear relationship between attendance percentage and academic performance. The analysis revealed a strong and statistically significant positive association between attendance percentage and academic achievement ($r = 0.6655$, $p < 0.001$), indicating that students with higher attendance levels tended to demonstrate better academic performance. Statistical significance was set at $p < 0.05$.

IV. RESULTS AND DISCUSSION

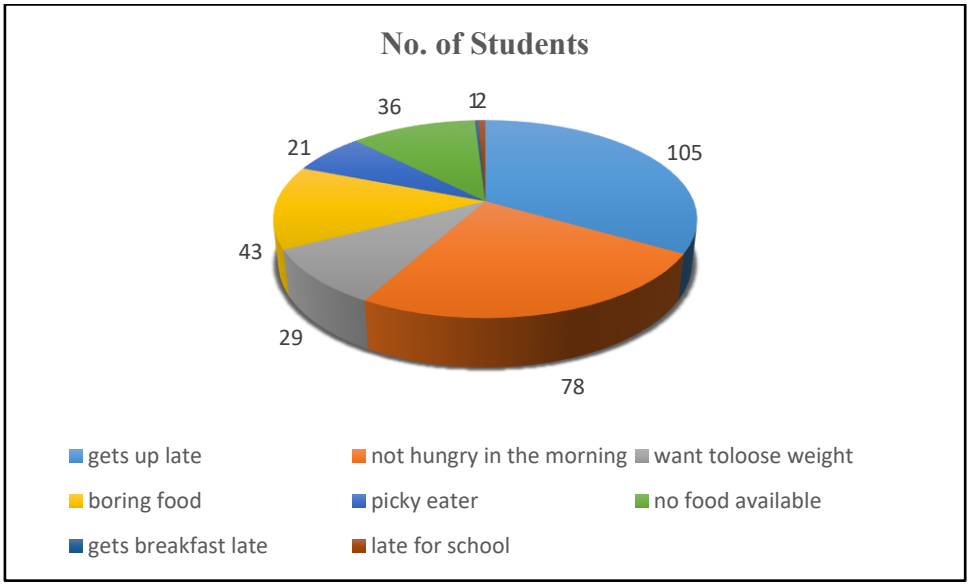
Figures and Tables

Table 1. Prevalence of Breakfast Consumption (n=315)

CATEGORY	NO. OF STUDENTS	YES	NO	P VALUE
Boys	150	124	26	
Girls	165	132	33	
Total	315	256	59	0.584

The analysis of breakfast consumption patterns among the student cohort revealed that the majority of participants (256 out of 315) reported eating breakfast, indicating a high overall prevalence of the habit. The p-value 0.584 is greater than 0.05, signifies no statistically significant association between gender and breakfast consumption.

Table 2. Distribution of the subjects based on reasons for skipping breakfast



The examination of reasons for skipping breakfast indicates that the primary cause is no food available (105 students), followed by late for school (78 students), underscoring accessibility and time constraints

as major barriers. The data also show notable influences of hunger perception and food preferences. Consequently, enhancing food availability and addressing scheduling issues are essential to improve breakfast habits.

Table 3. Correlation between Academic Performance and Attendance Percentage (n=315)

CATEGORY	PERCENTAGE	NO. OF STUDENTS	AVERAGE MEAN AND SD	P VALUE
Academic Performance	41-50%	20	71.02 ± 10.13	< 0.001
	51-60%	41		
	61-70%	83		
	71-80%	99		
	81-90%	60		
	91-100%	12		
Attendance Percentage	51-60%	21	78.74 ± 10.62	
	61-70%	56		
	71-80%	92		
	81-90%	92		
	91-100%	54		

The correlation analysis of 315 students demonstrates a significant positive relationship ($p < 0.001$) between attendance percentage and academic performance, with mean scores of 71.02 ± 10.13 for performance and 78.74 ± 10.62 for attendance. Higher attendance intervals are associated with improved academic outcomes. Thus, enhancing attendance is crucial for elevating scholastic achievement. Institutional strategies should focus on maximizing student attendance to optimize performance

V. CONCLUSION

The present investigation examined breakfast consumption patterns and their association with school attendance and academic performance among adolescents aged 11–15 years. The findings indicate a high prevalence of breakfast consumption, with no statistically significant difference observed between boys and girls ($p = 0.54$).

Although regular breakfast consumption was common among the study population, school attendance emerged as the strongest correlate of academic performance, demonstrating a robust and statistically significant positive relationship ($p < 0.001$). Students with higher attendance percentages consistently exhibited better academic outcomes, highlighting attendance as a key determinant of scholastic achievement.

Analysis of breakfast-skipping behavior revealed that time-related constraints, such as waking up late and being late for school, along with reduced morning appetite, were the primary reasons for skipping breakfast. These findings suggest that breakfast omission is largely influenced by modifiable lifestyle and behavioral factors.

The study underscores the importance of promoting healthy morning routines, improving attendance, and implementing school-based nutrition education programs. Such interventions may indirectly support academic performance and overall well-being among school-going adolescents.

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